



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

MUSSELWHITE ET AL.

Serial No.: 09/982,618

Filed: October 17, 2001

For: MULTI-PURPOSE FLOAT  
EQUIPMENT AND METHOD

**THE UNIVERSITY OF CHICAGO**

Attorney Docket: DLY-014:CIP

Examiner: N/A

Art Unit: N/A

**PETITION TO MAKE SPECIAL UNDER 37 C.F.R. § 1.102 (d)**

Assistant Commissioner of Patents  
Box Non-Fee Amendment  
Washington, D.C. 20231

Sir:

Applicants respectfully submit herewith a Petition to Make Special for grounds of actual infringement of a product actually on the market in accord with 37 C.F.R. § 1.102 (d) and M.P.E.P. § 708.02, section II, entitled Infringement. The appropriate fee under 37 C.F.R. 1.17 (i) is included herewith.

As required by M.P.E.P. § 708.02 (VIII)(B), Applicants hereby present claims 47-66 from the attached Preliminary Amendment as claims all directed to a single invention. As a convenience, a copy of the Preliminary Amendment is included in the appendix (under tab 3). If the Office determines that presented claims 47-66 are not obviously all directed to a single

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invention, then Applicants elect claims 47-56 without traverse, in accord with the requirements of this section.

In accord with the specific requirements of M.P.E.P. § 708.02, section II, a showing of evidence related to the requirements listed therein is provided now.

(I) **INFRINGING DEVICE IS PRESENTLY FOR SALE IN THE MARKET**

Copies of several pages in color of an advertisement for the infringing are attached to this petition (in the appendix under tab 1). A copyright notice and date on the attached advertisement of February 28, 2001 show that the product is presently being offered for sale. Since this product competes directly with Applicant's product, Applicants are being injured in the marketplace by the infringement.

(II) **RIGID COMPARISON OF ALLEGED INFRINGING DEVICE WITH CLAIMS**

For the convenience of the Examiner, FIG. 8 and FIG. 9 of Applicant's application are attached herewith (in the appendix under tab 2). As will immediately be noticed, FIG. 8 and FIG. 9 are extraordinarily similar to the alleged infringing device depicted on the first and second pages of the attached advertisement. However, the structures shown in FIG. 2-9 each show the claimed elements. FIG. 2-5 were provided in the parent application.

The claims that are listed below, which are unquestionably infringed, are included as preliminary amendment to the above application.

For convenience of the Examiner, capital letters are used to mark the claim elements. The same capital letters are also shown on the first and second pages of the attached advertisement to thereby permit easy comparison of the claim elements with the elements disclosed in the advertisement. Corresponding letters are also marked on Applicants' drawings on FIG. 8 and FIG. 9 but the same features are found in FIG. 2-5 which are also included in appendix 2.

47. A float equipment assembly for lowering a tubular string from a surface position into a wellbore, said assembly comprising:

[A] an outer tubular affixed to said tubular string;

[B] a first flapper valve body mounted within said outer tubular, said first flapper

valve body defining a first bore therethrough;

[C] a first flapper closure element pivotally mounted to said first flapper valve body for pivotal movement between an open position and a closed position, said first flapper closure element being selectively operable between an auto-fill mode and a back pressure mode, in said auto-fill mode said first flapper closure element being secured in said open position to permit fluid flow through said first bore in a direction toward said surface position and also to permit fluid flow in a direction away from said surface position, in said back pressure mode said first flapper closure element being pivotally moveable between said open position and said closed position responsively to fluid flow direction and being mounted to thereby prevent fluid flow through said first bore in said direction toward said surface position and to permit fluid flow in said direction away from said surface position;

[D] a second flapper valve body mounted within said outer tubular, said second flapper valve body defining a second bore therethrough;

[E] a second flapper closure element pivotally mounted to said second flapper valve body for pivotal movement between an open position and a closed position, said second flapper closure element being selectively operable between said auto-fill mode and said back pressure mode, in said auto-fill mode said second flapper closure element being secured in said open position to permit fluid flow through said second bore in said direction toward said surface position and also to permit fluid flow in said direction away from said surface position, in said back pressure mode said second flapper closure element being pivotally moveable between said open position and said closed position responsively to fluid flow direction and being mounted to

~~(thereby prevent fluid flow through said second bore in said direction toward said surface position)~~  
~~and to permit fluid flow in said direction away from said surface position; and~~

[F] an inner tubular having an inner tubular flow path therethrough, said inner tubular being initially securable at a first axial position with respect to said outer tubular, in said first axial position said inner tubular being mounted to extend simultaneously through both said first bore and said second bore to thereby secure said first flapper closure element in said open position for operation in said auto-fill mode and to secure said second flapper closure element in said open position for operation in said auto-fill mode, said inner tubular being axially moveable from said first axial position away from said first flapper valve body and said second flapper valve body to thereby release said first flapper closure element for operation in said back pressure mode and also to release said second flapper element for operation in said back pressure mode.

48. The assembly of claim 47, further comprising:

[G] a drop member receptacle mounted to said inner tubular, said drop member receptacle being operable for catching [H - page 2 of the advertisement] a drop member, said drop member receptacle being positioned to restrict fluid flow through said inner tubular flow path when said drop member is caught in said drop member receptacle.

49. The assembly of claim 48, further comprising:

[I] at least one breakable mounting member for securing said inner tubular in said

first axial position, said at least one breakable mounting member being breakable in response to a fluid pressure when said drop member is caught in said drop member receptacle.

It will be readily appreciated that the wording of each lettered element of the claims is unquestionably infringed by the device shown in the attached advertisements.

Once the Examiner has worked his way through the elements of the apparatus claim above, the elements of the independent method claims will be readily apparent in the attached advertisement. However, for the convenience of the Examiner, statements are included in the subsequent claim that point to location in the advertisement where the corresponding method steps are clearly shown.

50. A method for running a tubular string from a surface position into a wellbore and for cementing said tubular string within said wellbore, said method comprising:

mounting a plurality of flapper valves in a float equipment tubular attached to said tubular string; [flappers C and E are clearly mounted in tubular A]

covering said bore of said plurality of flapper valves by extending a tubular through all of said plurality of flapper valves; [see tubular F]

running said tubular string with said float equipment tubular into said wellbore such that said wellbore fluid flows inwardly into said tubular string through said plurality of flapper valves; [see Flow rate on last page of advertisement and statements under Project Description]

removing said tubular from said plurality of flapper valves such that said flapper valves open in response to a direction of fluid flow away from said surface position and close in response to a direction of fluid flow towards said surface position. [See last two sequential pictures on second page of advertisement labeled Pressure & Conversion, Converted Float

Valve].

After review of the above, it is respectfully submitted that the Examiner will agree with Applicants' that the above claims are unquestionably infringed.



### (III) THOROUGH SEARCH OF PRIOR ART

A search for the parent application had already been made by the Examiner of the parent application. The results of that search were filed in an information disclosure statement Form 1449 at the time of filing of the present application. To comply completely with M.P.E.P. §708.02(H)(C), Applicants have also made a subsequent search of the prior art. Applicants' search was directed to class/subclass 166/317 but also to a review of class/subclass 166/318. The whole of class 166 with all subclasses was searched utilizing keywords in the specification such as "flapper." All classes of word searchable patents in the U.S.P.T.O. database were searched with terms such as "dual flapper" and "double flapper." As well, all patents were searched by combinations of terms such as [wellbore, cement, flapper] and the like.

All four inventors' names were searched. While the inventors had previous patents relating to cementing, casing, surge pressure reduction, the only patent that appears to be relevant to the claimed structures is U.S. Patent No. 6,311,775 B1, which issued November 6, 2001 with a filing date of April 3, 2000. The '775 includes two of the present inventors. However, the structures claimed in the associated preliminary amendment (at least the structures/methods in all the independent claims and practically all of the dependent claims) are supported by the specification of the parent case which was filed March 13, 2000. Therefore, '775 is predated by the priority date and is not a reference and is not listed for this reason and/or may also be removed as a reference by other procedures or for other reasons.

The remaining resulting patents provided on the attached Form 1449 show what is deemed to be the most closely related art. For convenience of the Examiner, copies of the prior art are included in the appendix under tab 4.

Surge flow is often mixed with cuttings and debris, and may often result in high fluid

flow and erosion, as discussed somewhat in patents such as the '775, Col. 4, lines 2-7. The surge flow in a properly designed tool can be quite high and may be mixed with large amounts of cuttings and debris that can erode, cut, or inhibit operation of valves in the flow path. Due to the close tolerances that occur in wells where surge pressure becomes a problem, cementing baskets and/or other components external to the float shoe, such as the cementing basket as shown in U.S. Patent No. 4,469,174 are completely unsuitable. In fact, utilizing a cementing basket would greatly exacerbate or increase the surge pressures that are created. Moreover, in close tolerance wellbores, a cementing basket as shown in '174 is likely to jam and cause the entire casing string to get stuck. In a worst case, this may cause loss of the well just before bringing the well into production resulting in significant monetary losses.

It will be seen that there are many examples of flapper valves used in float equipment. To provide the amount of flow that is required for surge reduction, Applicants prefer to utilize flapper valves because when mounted in the manner taught by Applicants in this application, it is believed that flapper valves may have a potentially larger internal bore than other types of back pressure valves such as poppet valves and are also able to receive drop balls therethrough. It is not readily obvious from the prior art how to combine a plurality of flapper valves to operate simultaneously as is preferably utilized in this embodiment in accord with the present invention. The prior art shows several types of devices, including float equipment, that use more than one flapper valve. However, there is no prior art that shows two simultaneously operable flapper valves that may be simultaneously converted from the fill mode to the back pressure mode.

To avoid the significant surge flow problems such as debris and erosion, Applicants also completely seal off both flapper valves as shown in FIG. 2-9 from any contamination/erosion and provide the capability to convert both flapper valves simultaneously prior to cementing. Applicants' dual flapper valve assembly is therefore highly suitable for surge reduction and

provides both high fluid flow and high reliability while avoiding damage to the valves.

The advertisement of the infringing device does not actually show for sure how or even whether the flapper valves are completely protected from the debris and erosion as taught by Applicants. But clearly even the assembly configured as shown in the advertisement will be more useful and reliable for avoiding damage to the plurality of flapper valves from the surge flow erosion and debris than the prior art devices. Apparently, for that reason, the infringer has intentionally copied Applicants' design and presently benefits greatly therefrom. In more detail, the cited prior art is as follows:

U.S. Patent No. 4,474,241, issued October 2, 1984, to T.A. Freeman, discloses a differential fill valve assembly for application in float collars or shoes in well casing. The valve assembly comprises a back pressure flapper valve disposed within a substantially tubular upper housing, and a lower housing containing an activating sleeve slidably disposed therein above a double flapper valve assembly. The activating sleeve initially extends into the upper housing to a sufficient extent to maintain the flapper valve in an open position; the activating sleeve is maintained in this position through use of shear pins, by which it is secured to the lower housing. The double flapper valve comprises a first flapper responsive to pressure below the valve assembly, and a second flapper responsive to force applied from above. A tripping ball is dropped to seat in the activating sleeve when it is desired to release the back pressure flapper valve; pressure applied on the ball moves the activating sleeve downward, releasing the back pressure flapper valve and swinging the double flapper valve assembly out of the flow path through the differential fill assembly, after which the tripping ball exits the bottom of the assembly. A lock ring maintains the activating sleeve in its lower position, while a shear screw riding in a longitudinal channel in the lower housing prevents rotation of the activating sleeve during its longitudinal movement prior to its contacting the double flapper valve assembly.

U.S. Patent No. 4,469,174, issued September 4, 1984, to T. A. Freeman, discloses a combination cementing shoe and basket, comprising a substantially tubular mandrel having a cement basket disposed thereabout, the cement basket being maintained in a collapsed mode by an annular overshot at the bottom of a coupling at the top of the mandrel. A flapper valve assembly is located within the mandrel, being maintained in an open mode by the presence of a fillup tube disposed in the valve orifice. The bottom of the fillup tube is secured to a slidable ball seat located below the flapper valve assembly. The ball seat is initially secured in place by attachment through a plurality of shear rods to a tubular activating sleeve disposed around the mandrel and under the cement basket, the activating sleeve being maintained in its initial position by contact with the bottom of the cement basket, which is fixed to the mandrel by a shear screw. To operate the apparatus, a tripping ball is pumped down the casing to the ball seat, whereupon the casing pressure would cause the basket shear rods, acted upon by the activating sleeve, to shear, the basket moving downward and out from under the coupling overshot. Continued application of pressure causes the activating sleeve screw to shear, allowing the ball seat to move to the bottom of the mandrel, and removing the fillup tube from the flapper valve orifice, permitting the flapper to close.

U.S. Patent No. 4,846,281, issued July 11, 1989, to Clary et al., discloses a dual flapper valve assembly that permits a well logging operation to be carried out after a gravel pack has been deposited without losing a large amount of completion fluid into the formation. The dual flapper valves can be closed and fractured independently of each other and selectively to accommodate a gravel pack operation, a well logging operation and a completion fluid recovery operation. The closure plate of the lower flapper valve is propped open by the wash pipe during the gravel pack operation. The lower closure plate is fractured to accommodate a well logging operation, while the closure plate of the upper flapper valve is held open by a prop sleeve. Upon completion of the well logging operation, the prop sleeve is retracted out of engagement with the closure plate of the upper

flapper valve, thereby permitting the upper flapper valve to close. The heavy completion fluid remaining in the casing annulus is thereby conserved and can be recovered to the surface, while the gravel pack and the formation are protected from the pressure of the heavy completion fluid. After recovery of the completion fluid, the closure plate of the upper flapper valve is fractured to accommodate production operations.

U.S. Patent No. 4,729,432, issued March 8, 1988, to L. C. Helms, discloses a differential fill valve assembly for application in float collars or shoes in well casing. The valve assembly comprises a back pressure flapper valve disposed within a substantially tubular upper housing, and a lower housing containing an activating sleeve slidably disposed therein above a double flapper valve assembly. The activating sleeve initially extends into the upper housing to a sufficient extent to maintain the flapper valve in an open position and comprises a lower tubular sleeve surmounted by a circumferential ring of longitudinally upwardly extending collet fingers having radially inwardly extending shoulders thereon, said fingers and shoulders having elastomeric inserts extending therebetween; the activating sleeve is maintained in this position through use of shear pins, by which it is secured to a support ring associated with the lower housing. The double flapper valve comprises a first flapper responsive to pressure below the valve assembly, and a second flapper responsive to force applied from above. A tripping ball is dropped to seat on the shoulders in the activating sleeve when it is desired to release the back pressure flapper valve; pressure applied on the ball moves the activating sleeve downward, releasing the back pressure flapper valve and swinging the double flapper valve assembly out of the flow path through the differential fill assembly, after which the tripping ball exits the bottom of the assembly. Outward deformation of the collet ring maintains the activating sleeve in its lower position.

U.S. Patent No. 2,751,021, issued June 19, 1956, to J. F. Muse, discloses an apparatus for controllably filling a conduit string, such as a string of casing or drill pipe, with the fluid in the well

bore as it is lowered therewithin comprising a tubular member having means thereon for securing the member in the conduit string to be lowered. A valve seat is provided in the tubular member whereby the valve member is pivotally mounted in the tubular member and moveable upwardly into engagement with the seat. A valve device allows upward flow of fluid in the tubular member. The device engages the valve member to prevent engagement with the seat. Releaseable means engageable with the valve device and connected to the tubular member hold the device in engagement with the valve member. The means is releasable to allow the valve device to be shifted downwardly in the tubular member out of engagement with the valve member to allow the valve member to engage the seat.

U.S. Patent No. 2,735, 498, issued February 21, 1956, to J. F. Muse, discloses an apparatus adapted to form part of a conduit string, such as casing, liner, or drill pipe, as it is lowered into the well bore. Flow control means provide a restricted passage in the tubular member through which fluid can flow upwardly and bypass a valve member when the valve member engages a seat. A valve means is moveable to a position across the restricted passageway to close the restricted passageway.

U.S. Patent No. 3,148,731, issued September 15, 1964, to J. C. Holden, discloses a cementing tool comprising a mandrel having radial ports, means for attaching the mandrel to a casing string, a valve body mounted with the mandrel wherein the valve has a chamber formed in the lower portion thereof and a deformable orifice thereabove. The valve body further has radial ports communicating with the chamber. Mandrel ports are provided in the same radial plane as the radial ports. A frangible holding means prevents relative movement between the valve body and the mandrel until a first predetermined fluid pressure is applied to the valve body.

U.S. Patent No. 3,995,692, issued December 7, 1976, to P. W. Seitz, discloses a down-hole apparatus for use especially in casing cementing operations wherein a so-called string of

casing is lowered into a well bore and cemented in place. The apparatus comprises an insert, disposed across the interior of the casing, containing a spring loaded flapper valve assembly which is held open by a movable valve seating member until a ball is seated in the seating member and pressure applied through the casing to the sealed valve seating member forces the seating member downward, releasing the flapper valve, and expands the lower end of the seating member as the ball is forced through it. On release of the casing pressure from above, the flapper valve closes. A plurality of the inventive devices may be placed along the casing, the ball valve sealing each, in turn, from top to bottom.

U.S. Patent No. 4,664,192, issued May 12, 1987, to P. J. M. Hogarth, discloses that in conjunction with drilling a well, when sections of casing are run down a borehole, a float shoe at the lower end which is equipped with a double valve enabling the casing to fill with drilling mud both while the casing is moving down and also while it is stationary. Within the casing is a baffle collar which defines a socket for a latching dart carried by a plug. The plug and dart are driven down to the collar, when the pumping of cement into the casing has been completed, by a launching dart which also closes the passageway through the plug.

U. S. Patent No. 4,688,593, issued August 25, 1987, to Pringle et al., discloses a reverse flow check valve for use in a pumping well to prevent backflow when the pump is shut down in which the valve has pump through capabilities for killing the well. The valve includes a housing having a bore with a valve closure element in the bore. A flow tube telescopically moves in the housing upwardly for opening and downwardly for actuating the closing of the member. The flow tube is biased downwardly, preferably by weight, for closing the valve and is responsive to a pressure drop for holding the valve element open. The housing has a port initially closed, but may be opened for pumping through the valve.

U.S. Patent No. 3,032,050, issued May 1, 1962, to E. H. Clark, Jr., discloses an apparatus for automatically filling a conduit string, such as well casing, as it is being lowered through fluid in

a well bore. A tubular member is adapted to be secured to a conduit section to be disposed in the well bore. A valve housing is secured in the tubular member. A valve seat is in the housing. A lower stationary guide member is secured to the housing against movement in both longitudinal directions. A valve member telescopes over the lower guide member in leakproof relation with respect thereto to provide a confined space closed by the valve member and the lower guide member into which well bore fluid cannot enter. The valve member has a portion slidable along the upper guide member. The valve member is slidable downwardly along the guide members into engagement with the seat. A shear ring engaging the valve seat and housing releasably secures the valve seat to the housing against downward movement.

U.S. Patent No. 6,244,342, issued June 12, 2001, to Sullaway et al., discloses an invention that relates to a reverse-cementing apparatus. The reverse-cementing apparatus is a float apparatus connected in a pipe string to be cemented into a wellbore. The float apparatus includes an outer housing connected to the casing string. A check valve for preventing flow from the wellbore into the pipe string is disposed in the housing. The check valve is releasably disposed in the housing so that it can be removed from the housing once the pipe string is in place. A flow path for fluid from the wellbore into the pipe string is therefore provided. Cement displaced into the annulus will cause fluid in the wellbore to enter the pipe string through the housing so that the pipe string can be cemented in place utilizing a reverse-cementing method.

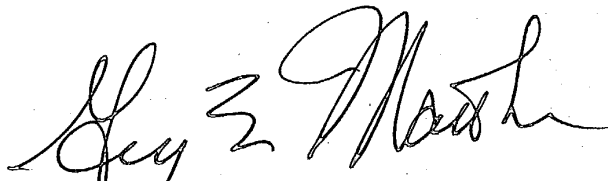
U.S. Patent No. 5,474,130, issued December 12, 1995, to T. C. Davis, discloses a well casing cleaning tool that includes a tubular tool body that has a central axial passageway and upper and lower sets of jet ports through the tool body wall. The upper jet ports are angled upward and the lower jet ports are angled downward. The outside diameter of the cleaning tool is slightly smaller than the inside diameter of the well casing to be cleaned. When wash fluid is pumped through the jet ports of the cleaning tool, an area of reduced pressure forms between the upper and lower sets of jet ports. This area of reduced pressure aids in the cleaning of the perforation zone of a well. Bypass passages from above the upper set of jet ports to below the lower set of jet ports prevent a pressure



difference between the two sets of jet ports.

The above-discussed prior art clearly does not disclose the claimed invention. Therefore, to obtain an improved apparatus for reducing surge pressure, the infringer has intentionally copied Applicants' design and presently benefits greatly therefrom. Accordingly, Applicants respectfully request that the Petition to Make Special is granted so that Applicants may obtain speedy relief.

Respectfully submitted,



Guy E. Matthews  
Reg. No. 24,173

Date: 12/13/01  
The Matthews Firm  
1900 West Loop South, Suite 1800  
Houston, TX 77027-3214  
(713) 355-4200 - Telephone  
(713) 355-9689 - Facsimile

# Big Bore Auto-Fill Valve



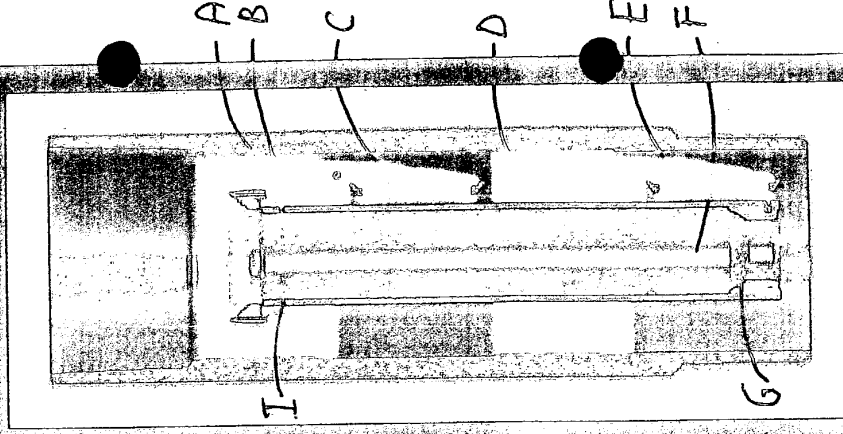
**Weatherford®**  
Drilling & Intervention  
Services

## Project Description

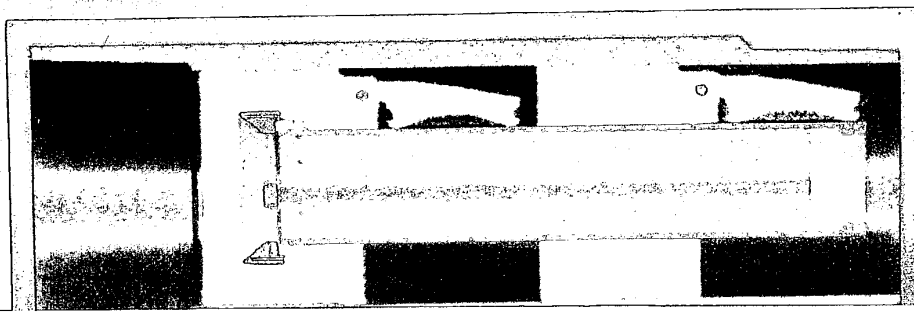
- Designed to minimize surge pressure effects and reduce potential of plugging float equipment with drill cuttings when running casing in close tolerance annuli.
- Features dual flappers with 3 1/4" bore auto-fill tube & 4" full-bore flow path after auto-fill tube is sheared with 3 1/2" ball.
- Seat can be field converted to accommodate smaller trip balls.
- Potential savings of hundreds of thousands of dollars in reduced mud losses and improved casing running speeds.
- Aluminum and composite versions under development.
- Designed to meet API RP10F Category III B.

## Status

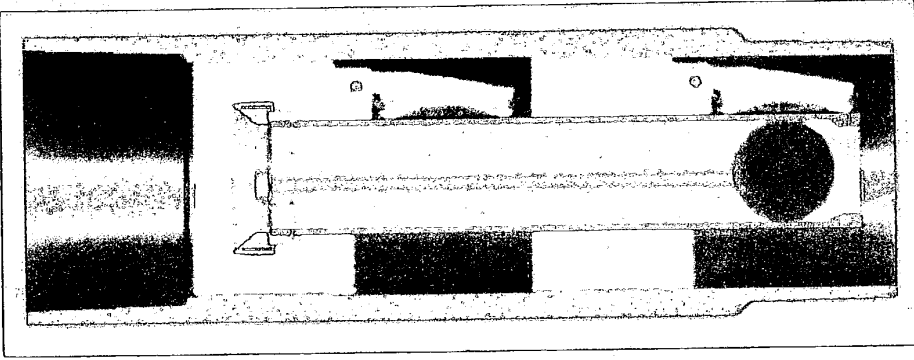
- Aluminum version currently in Lab Testing phase.
- ## 2001 Plan
- Aluminum version ready for field testing by 2<sup>nd</sup> Quarter, 2001.
  - Composite version under development.



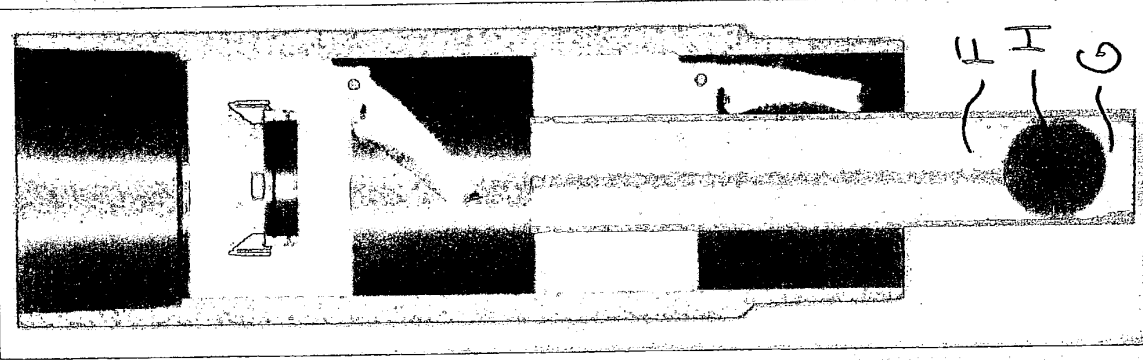
Inning in Hole



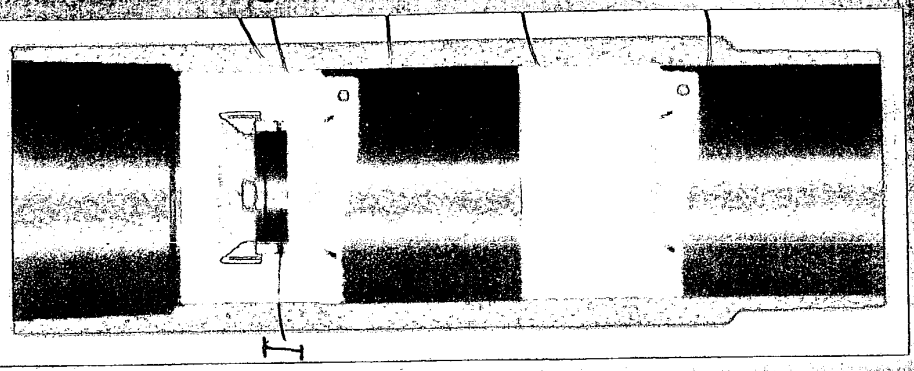
Ball Seated



Pressure & Conversion



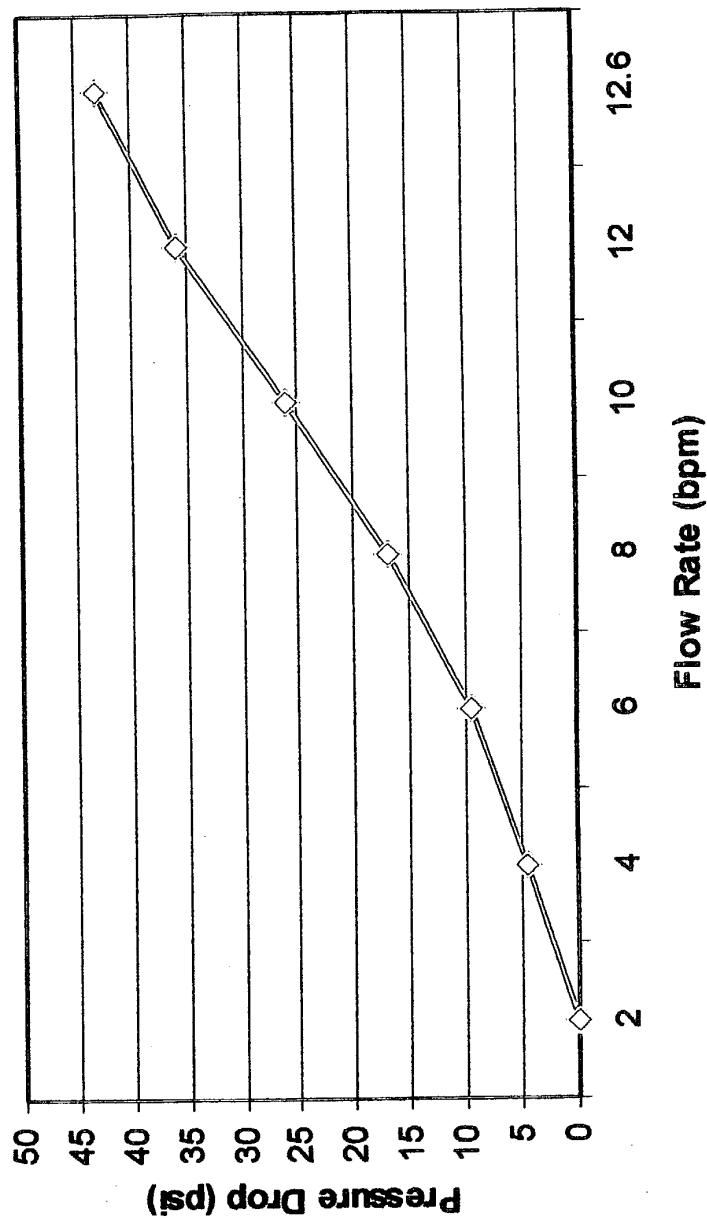
Converted Float Valve





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Drilling & Intervention  
Services

## 455BB Float Collar



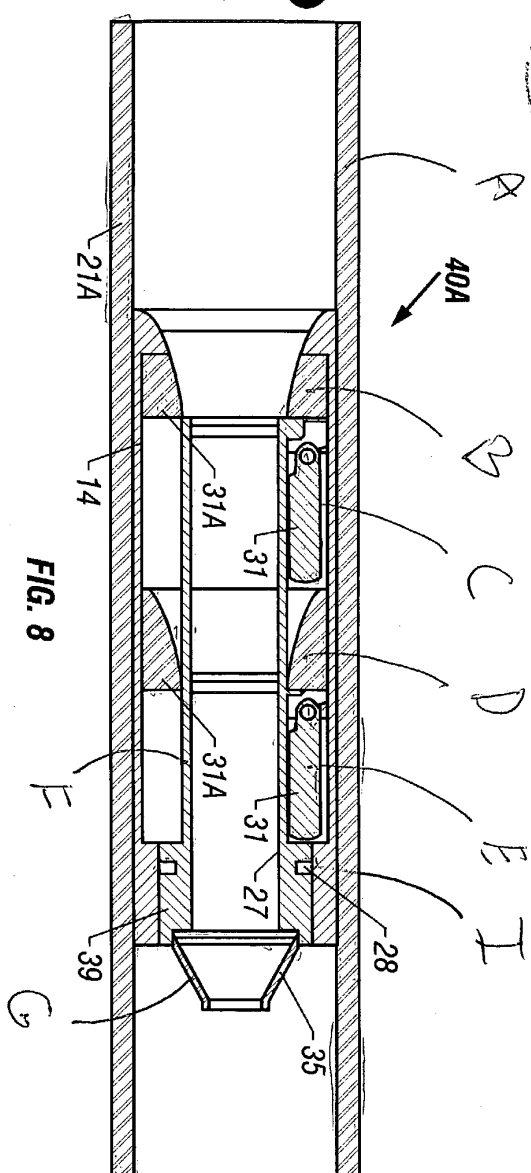
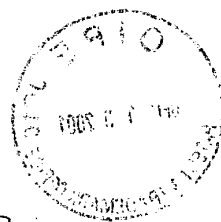


FIG. 8

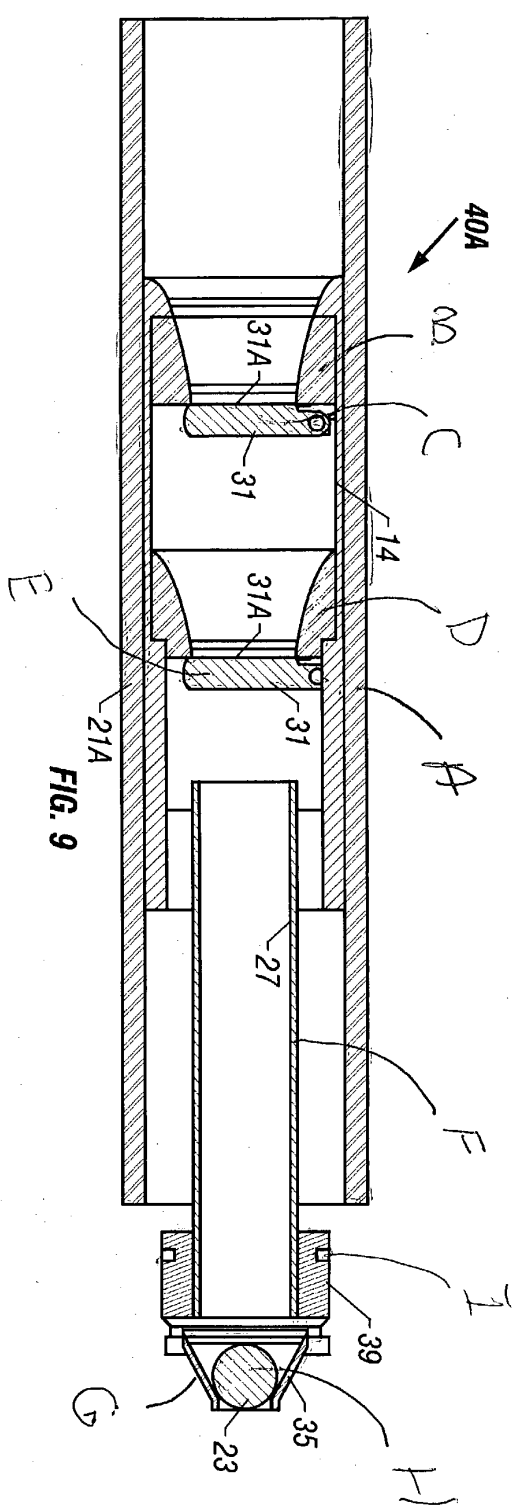
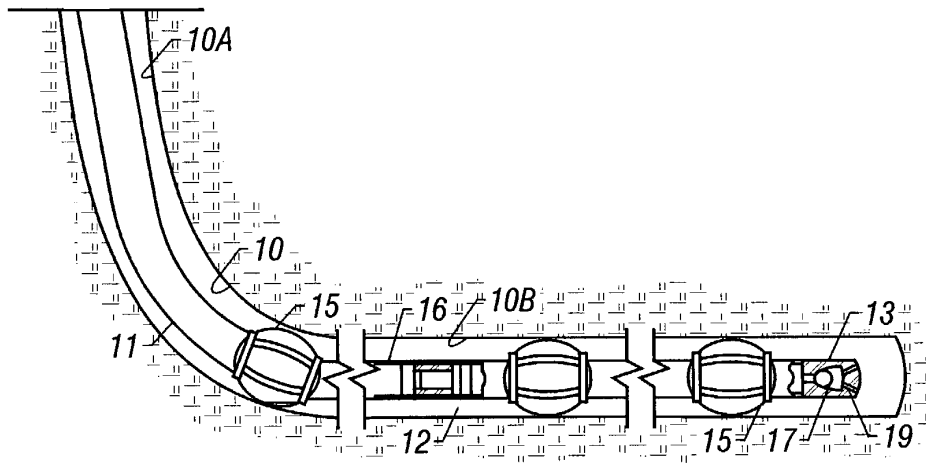
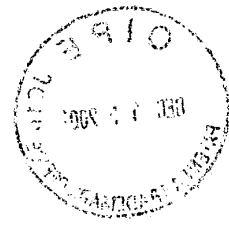


FIG. 9



**FIG. 1**

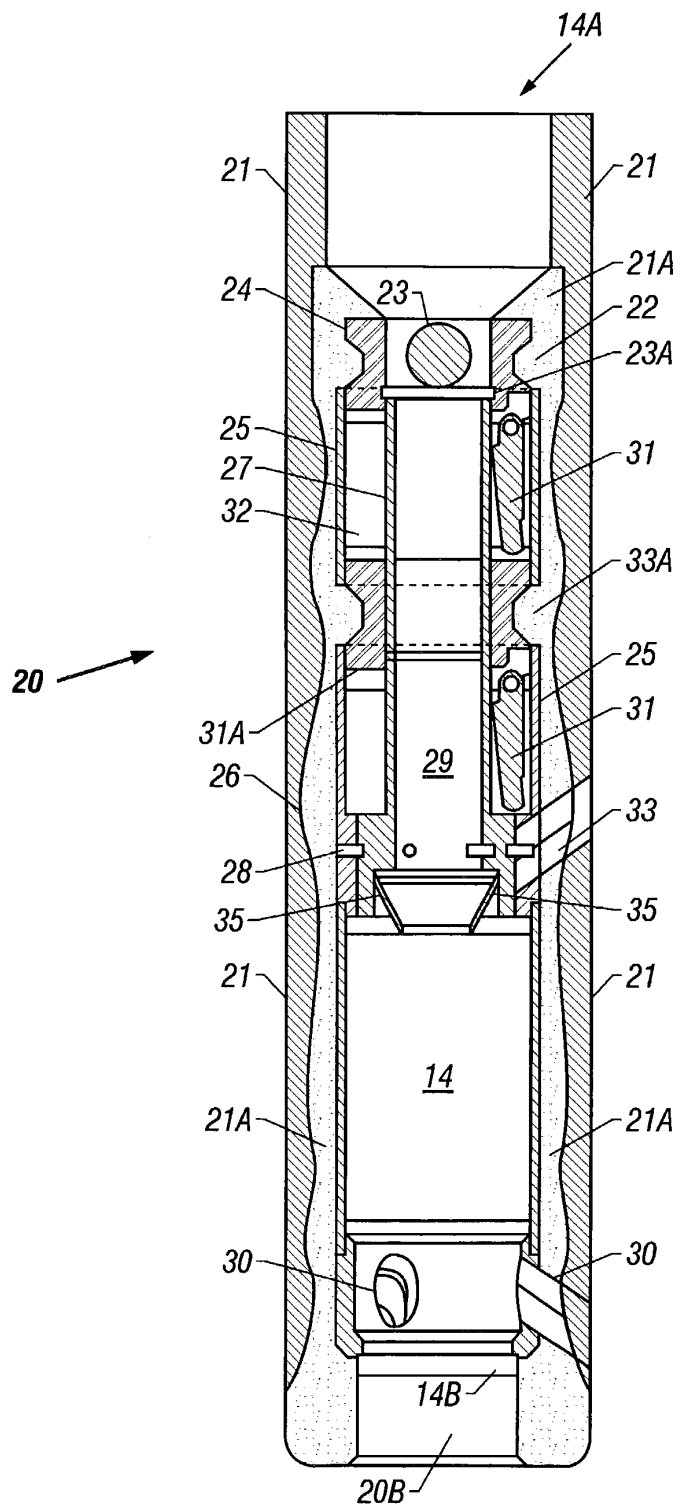
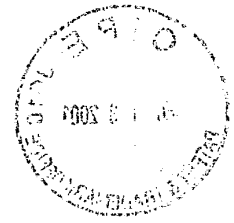
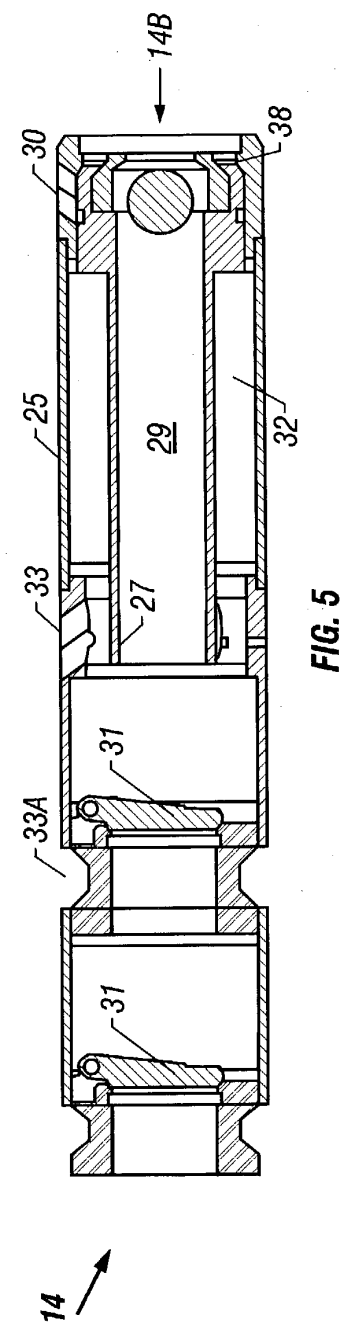
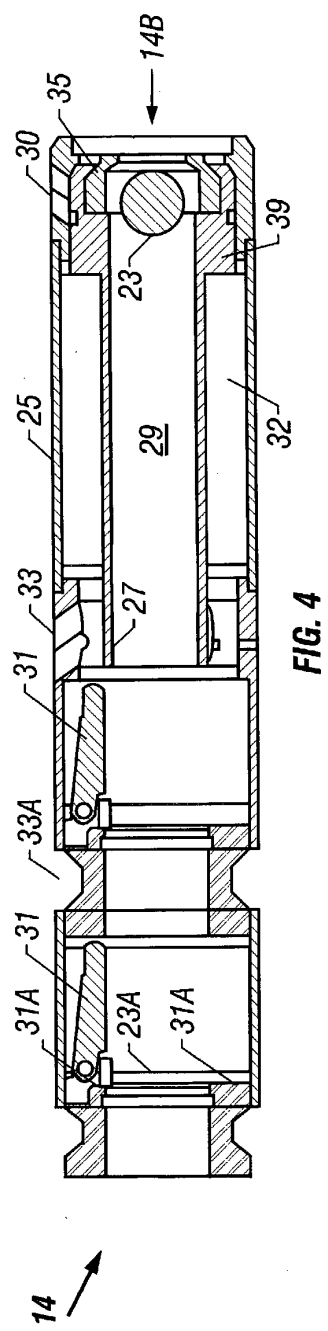
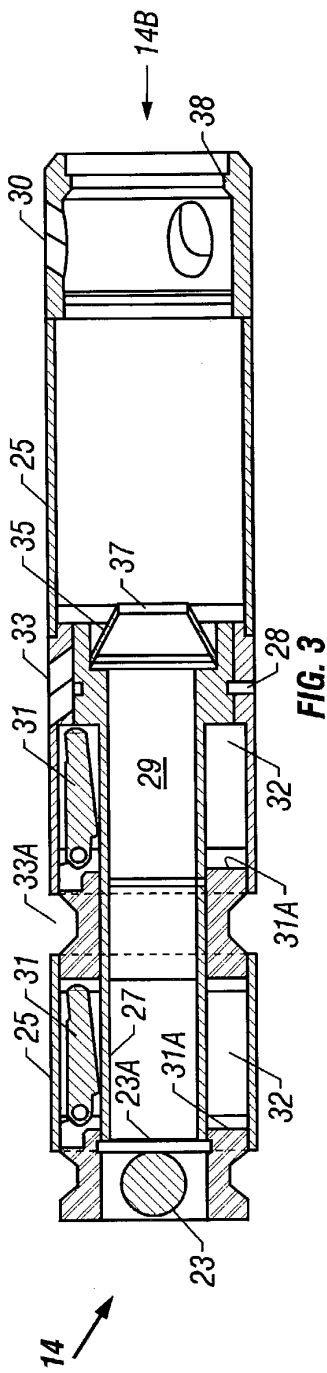


FIG. 2





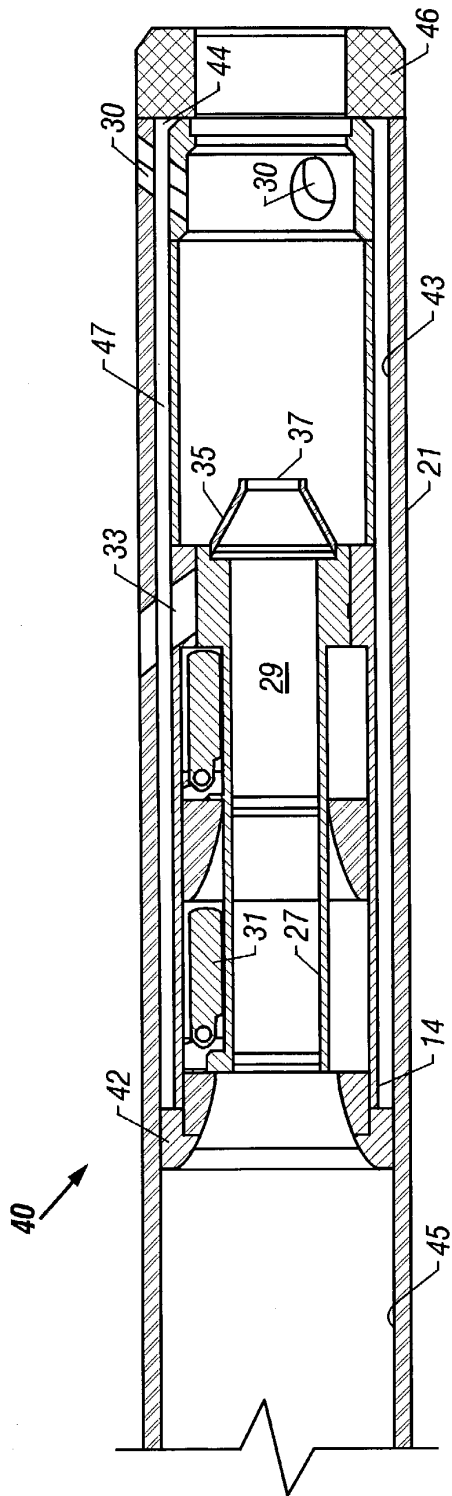


FIG. 6

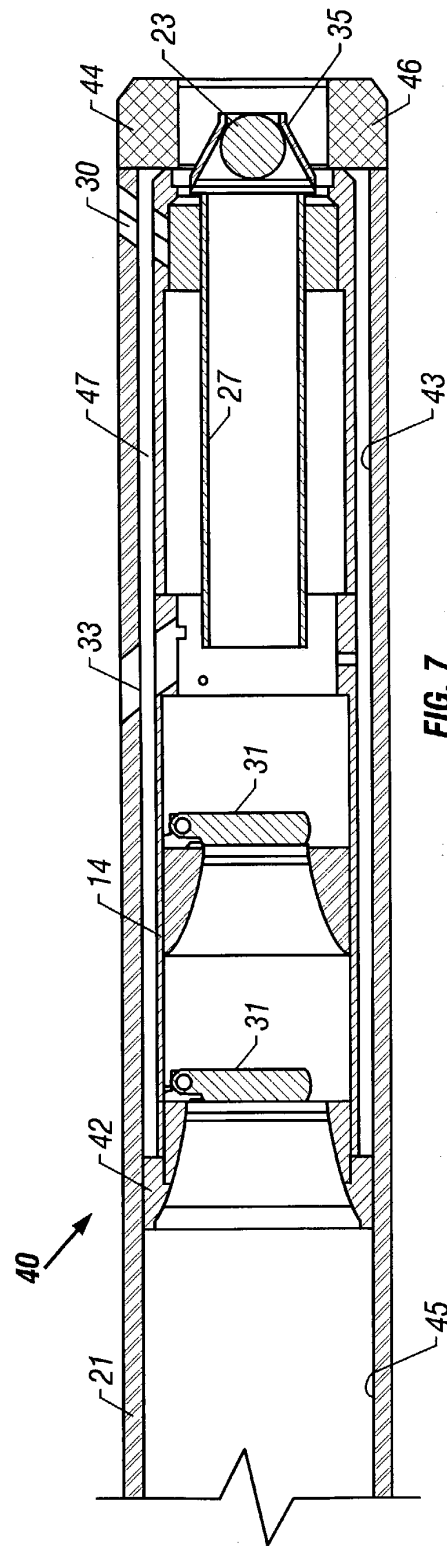
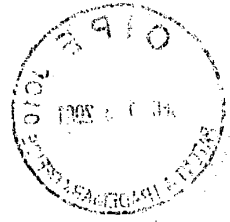
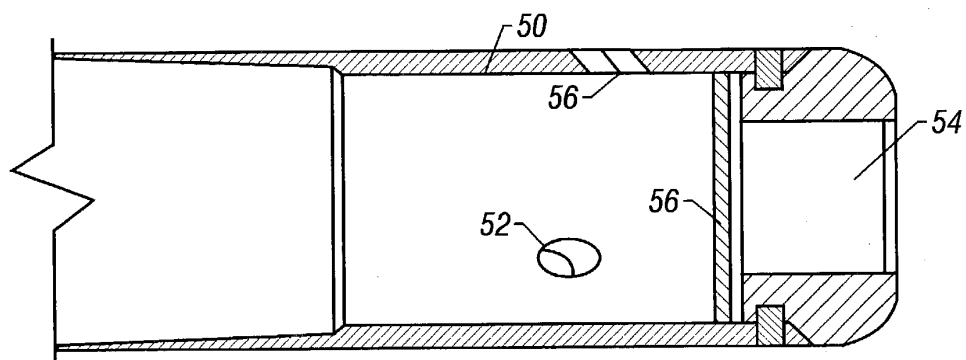


FIG. 7





**FIG. 10**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	§	
	§	
MUSSELWHITE ET AL.	§	
	§	Attorney Docket: DLY-014:CIP
	§	
Serial No.: 09/982,618	§	Examiner: N/A
	§	
Filed: October 17, 2001	§	Art Unit: N/A
	§	
For: MULTI-PURPOSE FLOAT	§	
EQUIPMENT AND METHOD	§	
	§	

**PRELIMINARY AMENDMENT**

Assistant Commissioner of Patents  
Box Non-Fee Amendment  
Washington, D.C. 20231

Sir:

Applicant respectfully submits herewith a preliminary amendment related to a Petition to Make Special for grounds of actual infringement of a product actually on the market. For this purpose, please amend the specification as follows. The appropriate fee for additional claims is attached herewith. Although no other fees are believed due, permission is hereby provided to deduct any additional fees required from Applicants' attorneys deposit account.

To the extent required, marked up and replacement sheets are provided herewith.

**In the Specification**

The first line of the specification is amended to correct the priority data and position the

corrected priority data as the first sentence of the application. A marked-up and replacement sheet are attached herewith.

In the Claims

Please add the following claims:

47. A float equipment assembly for lowering a tubular string from a surface position into a wellbore, said assembly comprising:

an outer tubular affixed to said tubular string;

a first flapper valve body mounted within said outer tubular, said first flapper valve body defining a first bore therethrough;

a first flapper closure element pivotally mounted to said first flapper valve body for pivotal movement between an open position and a closed position, said first flapper closure element being selectively operable between an auto-fill mode and a back pressure mode, in said auto-fill mode said first flapper closure element being secured in said open position to permit fluid flow through said first bore in a direction toward said surface position and also to permit fluid flow in a direction away from said surface position, in said back pressure mode said first flapper closure element being pivotally moveable between said open position and said closed position responsively to fluid flow direction and being mounted to thereby prevent fluid flow through said first bore in said direction toward said surface position and to permit fluid flow in said direction away from said surface position;

a second flapper valve body mounted within said outer tubular, said second flapper valve body defining a second bore therethrough;

a second flapper closure element pivotally mounted to said second flapper valve body for pivotal movement between an open position and a closed position, said second flapper closure element being selectively operable between said auto-fill mode and said back pressure mode, in said auto-fill mode said second flapper closure element being secured in said open position to permit fluid flow through said second bore in said direction toward said surface position and also to permit

fluid flow in said direction away from said surface position, in said back pressure mode said second flapper closure element being pivotally moveable between said open position and said closed position responsively to fluid flow direction and being mounted to thereby prevent fluid flow through said second bore in said direction toward said surface position and to permit fluid flow in said direction away from said surface position; and

an inner tubular having an inner tubular flow path therethrough, said inner tubular being initially securable at a first axial position with respect to said outer tubular, in said first axial position said inner tubular being mounted to extend simultaneously through both said first bore and said second bore to thereby secure said first flapper closure element in said open position for operation in said auto-fill mode and to secure said second flapper closure element in said open position for operation in said auto-fill mode, said inner tubular being axially moveable from said first axial position away from said first flapper valve body and said second flapper valve body to thereby release said first flapper closure element for operation in said back pressure mode and also to release said second flapper element for operation in said back pressure mode.

48. The assembly of claim 47, further comprising:

a drop member receptacle mounted to said inner tubular, said drop member receptacle being operable for catching a drop member, said drop member receptacle being positioned to restrict fluid flow through said inner tubular flow path when said drop member is caught in said drop member receptacle.

49. The assembly of claim 48, further comprising:

at least one mounting member for securing said inner tubular in said first axial position, said at least one mounting member being responsive to a first fluid pressure to release said inner tubular when said drop member is caught in said drop member receptacle.

50. The assembly of claim 49, wherein said at least one release member is breakable in response to said first selected fluid pressure.

51. The assembly of claim 49, further comprising:

a fluid pressure-operated tool mountable to said tubular string for operation at a second selected fluid pressure, said second selected fluid pressure being different than said first selected fluid pressure.

52. The assembly of claim 51, wherein said second selected fluid pressure is less than said first selected fluid pressure.

53. The assembly of claim 48, wherein said inner tubular flow path has a sufficient internal diameter to permit a drop member having an outer diameter of at least two inches to move into said inner tubular flow path.

54. The assembly of claim 47, wherein each of said first flapper valve body, said first flapper closure element, said second flapper valve body, second flapper closure element are comprised of a drillable material.

55. The assembly of claim 47, wherein a portion of said outer tubular has an axial length in which is contained each of said first flapper valve body, said first flapper closure element, said second flapper valve body, said second flapper closure element, and said inner tubular when mounted at said first axial position, said outer tubular within said axial length comprising a cylindrical wall structure with no apertures or uncoverable apertures therein that permit fluid flow from inside of said outer tubular to outside of said outer tubular.

56. The assembly of claim 47, further comprising:

at least one shoulder formed on said outer tubular for engaging and supporting at least one of said first flapper valve body or said second flapper valve body with respect to said outer tubular.

57. A method for running a tubular string from a surface position into a wellbore and for

cementing said tubular string within said wellbore, said method comprising:

mounting a plurality of flapper valves in a float equipment tubular attached to said tubular string;

covering said bore of said plurality of flapper valves by extending a tubular through all of said plurality of flapper valves;

running said tubular string with said float equipment tubular into said wellbore such that said wellbore fluid flows inwardly into said tubular string through said plurality of flapper valves; and

removing said tubular from said plurality of flapper valves such that said flapper valves are pivotal to thereby open in response to a direction of fluid flow away from said surface position and to close in response to a direction of fluid flow towards said surface position.

58. The method of claim 57, wherein said step of removing said tubular further comprises:  
pumping a drop member into said tubular.

59. The method of claim 58, further comprising:  
seating said drop member in said tubular, and  
utilizing a fluid pressure acting on said drop member to remove said tubular from said plurality of flapper valves.

60. The method of claim 59, further comprising:  
breaking a breakable member.

61. The method of claim 57, further comprising:  
providing said drop member with a diameter of at least two inches.

62. The method of claim 57, further comprising:  
forming said plurality of flapper valves from a drillable material.


63. The method of claim 57, further comprising:  
providing said plurality of flapper valves with an outer diameter substantially equal to an inner diameter of said float equipment tubular such that said outer diameter of said flapper valves engages said inner diameter of said float equipment.
64. The method of claim 63, further comprising:  
providing a shoulder in said float equipment tubular for securing said plurality of flapper valves in position therein.
65. The method of claim 57, further comprising:  
providing each of said plurality of flapper valves with a bore greater than two inches in diameter, and  
providing that said tubular extending through said plurality of flapper valves has a tubular bore with an inner diameter greater than two inches.
66. The method of claim 57, further comprising:  
sealing off said plurality of flapper valves utilizing said tubular and at least one seal between said tubular and said float equipment tubular.
67. The method of claim 57, further comprising:  
providing an opening through said plurality of flapper valves sized to reduce surge pressure.



Remarks

In light of the above and the discussion of prior art in the attached Petition to Make Special,  
Applicant respectfully submits that the application now stands in formal condition for allowance.

Respectfully submitted,



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